

What is claimed is:

1. A mixture to be employed in conjunction with water for preparing a sprayable slurry that hydrates to form a machinable plaster composition, said mixture comprising:
  - 5 from about 80% to about 98% by weight calcium sulfate hemihydrate;
  - from about 1% to about 5% by weight adhesive binder for adhering said plaster mixture to a substrate; and
  - 10 from about 0.001% to about 10% of a polysaccharide.
2. The mixture according to claim 1 further comprising an internal binder.
3. The mixture according to claim 2 wherein said internal binder is a poly(ethylene glycol).
4. The mixture according to claim 2 wherein said internal binder is a poly(ethylene glycol) having a molecular weight of approximately 8,000 Daltons.
5. The mixture according to claim 2 wherein said internal binder is a poly(ethylene glycol), and said adhesive binder is an ethylene/vinyl acetate copolymer.

6. The mixture according to claim 1 wherein said adhesive binder is a water redispersible composition having adhesive properties.

7. The mixture according to claim 1 wherein said adhesive binder is an ethylene/vinyl acetate copolymer.

8. The mixture according to claim 1, further comprising a polymeric resin.

9. The mixture according to claim 8 wherein said polysaccharide has a molecular weight greater than 2,000,000 Daltons.

10. The mixture according to claim 1 wherein said mixture comprises approximately 80% to 90% by weight of said calcium sulfate hemihydrate, approximately between 0.01% and 1% by weight of said polysaccharide, and approximately between 1 and 5 percent by weight of said adhesive binder.

11. The mixture according to claim 10 wherein said internal binder is poly(ethylene glycol), and said adhesive binder is ethylene/vinyl acetate copolymer.

12. The mixture according to claim 10 further including less than 1% of a defoamer.

13. The mixture according to claim 11 wherein said mixture comprises from about 6% to about 9% by weight of said poly(ethylene glycol).

14. A sprayable slurry that hydrates to form a machinable plaster, said slurry comprising:

a dry mixture comprising:

calcium sulfate hemihydrate;

an adhesive binder; and

polysaccharide; and

from about 10% to about 50% water based on the weight of said dry mixture.

15. The slurry according to claim 14 wherein said slurry comprises less than 32 weight % water based on the weight of the dry mixture.

16. The slurry according to claim 15 wherein said slurry comprises less than 25 weight % water based on the weight of the dry mixture.

17. The slurry according to claim 14 wherein said calcium sulfate hemihydrate is alpha-calcium sulfate hemihydrate.

18. The slurry according to claim 14, further comprising a defoamer.

19. The slurry according to claim 18 wherein said defoamer comprises from about 0.2% to about 0.8% by weight of said mixture.

20. The slurry according to claim 14 further including a setting rate retarder comprising one or more of sodium citrate, citric acid, tartaric acid, sodium tartrate, a proteinaceous material, or a phosphate.

21. A method of making a shaped plaster article comprising:

mixing a slurry comprising calcium sulfate hemihydrate,  
an adhesive binder for adhering said slurry to a substrate, 0.01 to 10%  
5 by weight polysaccharide and water;

spraying said slurry onto a substrate;

allowing said slurry to set forming a hardened plaster;

and

10 machining the hardened plaster to a desired shape with  
machine tools.

22. A shaped gypsum article on a substrate comprising:

an article shaped by machining the set and dried product  
of a slurry sprayed onto and adhering to a substrate, said slurry  
5 comprising calcium sulfate hemihydrate, an adhesive binder for  
adhering said plaster mixture to a substrate, 0.001% to 10% by weight  
polysaccharide and water.